

IN THE CLAIMS:

1. (Currently Amended) A method of manufacturing a camshaft ~~cam-shaft~~, said camshaft comprising a cam lobe and a shaft, said cam lobe comprising an iron-based alloy including 0.8 to 1.2% by mass of carbon, 0.5 to 4.0% by mass of nickel, 0.1 to 2.0% by mass of molybdenum, and incidental impurities, said method comprising the steps of:

subjecting ~~characterized in that after~~ an inner circumferential surface of a cam lobe is ~~subjected~~ to treatment for residual compressive stress addition treatment, ~~the cam lobe is joined to a shaft. the residual compressive stress on the inner circumferential surface of the cam lobe being~~ not less than 100 MPa;

subjecting an outer peripheral surface of the cam lobe to treatment for residual compressive stress addition treatment, the residual compressive stress on the outer peripheral surface of the cam lobe being not less than 100 MPa; and

joining the cam lobe to a camshaft, and

wherein the treatment for residual compressive stress addition treatment comprises a treatment selected from the group consisting of shot-peening, barrel polishing, and carbonitriding.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Currently Amended) A ~~cam shaft~~ camshaft manufactured by the method of claim 1;
~~characterized in that the cam shaft has a cam lobe in which an inner circumferential surface is~~
~~subjected to treatment for residual compressive stress addition treatment.~~

7. (Currently Amended) A cam lobe material, ~~characterized in that an inner circumferential~~
~~surface of the cam lobe material is subjected to treatment for residual compressive stress addition~~
~~treatment~~ comprising an iron-based alloy including 0.8 to 1.2% by mass of carbon, 0.5 to 4.0%
by mass of nickel, 0.1 to 2.0% by mass of molybdenum, and incidental impurities, said cam lobe
material being manufactured by a method comprising the steps of:

shaping said cam lobe material into a shape of a cam lobe having an inner circumferential
surface and an outer peripheral surface;

subjecting an inner circumferential surface of the cam lobe material to treatment for
residual compressive stress addition treatment, the residual compressive stress on the inner
circumferential surface of the cam lobe material being not less than 100 MPa; and

subjecting an outer peripheral surface of the cam lobe material to treatment for residual
compressive stress addition treatment, the residual compressive stress on the outer peripheral
surface of the cam lobe material being not less than 100 MPa;

wherein the treatment for residual compressive stress addition treatment comprises a treatment selected from the group consisting of shot-peening, barrel polishing, and carbonitriding.